

On-site Septic System Operations and Maintenance Program Manual

Program Description and Standard Operating Procedures

Created July 2021

Revision History

Author	Date	Section	Summary of Changes
Heather Watts	July 2021	All	New document

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Purpose and Scope

This Clallam County Environmental Health (CCEH) Standard Operating Procedure (SOP) describes the On-site Septic Operations (OSS) and Maintenance Program's (O&M) program plan and activities. This document is used to implement and evaluate program activities using revenue generated through an annual fee assessed to all on-site septic systems countywide. The O&M program will be adaptively managed over time and, as such, this document is intended to be revised regularly in order to maximize program efficiency.

Applicability

CCEH staff will refer to this document while implementing and evaluating O&M program activities. This manual is also available to the public and project partners by request.

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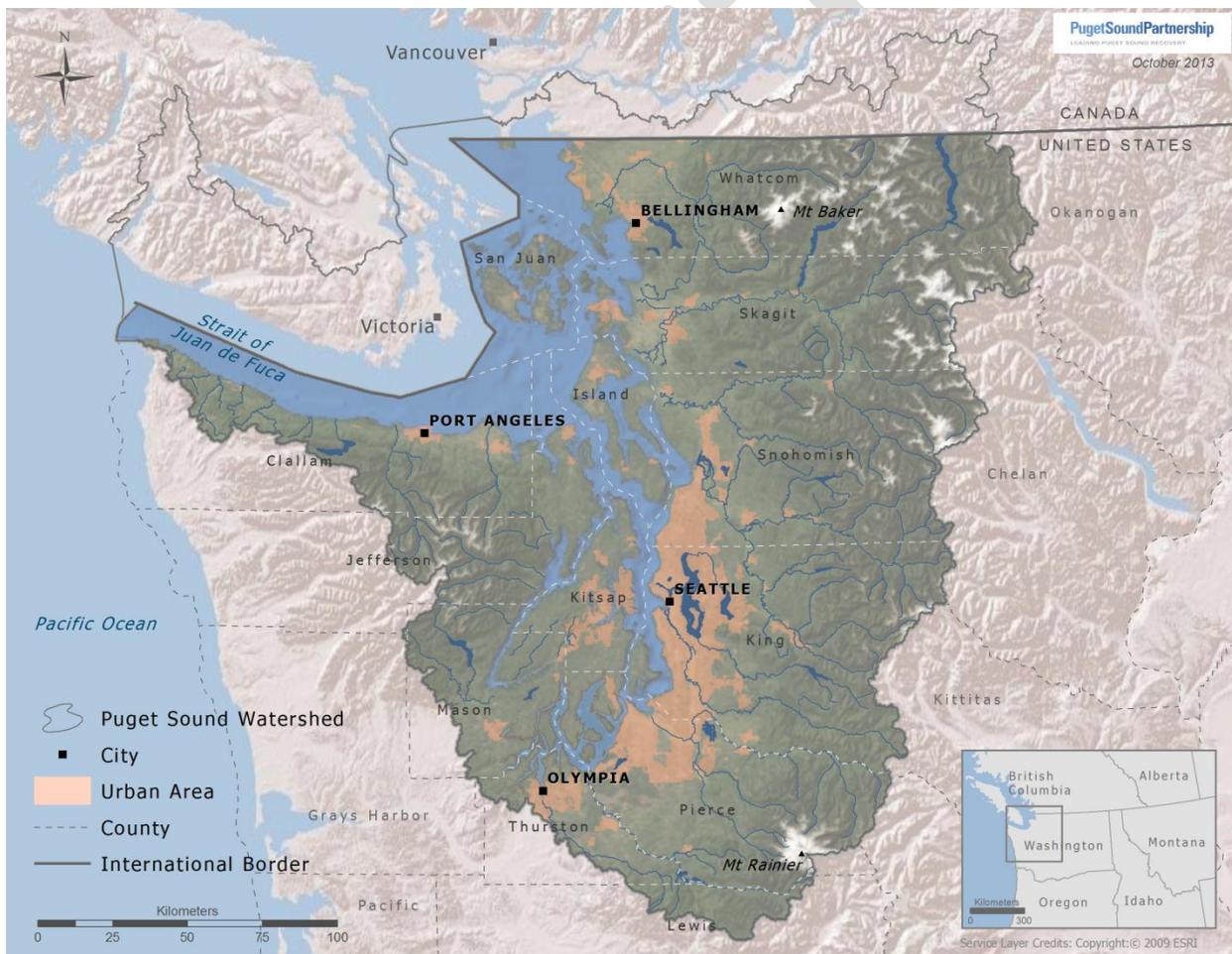
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Background

The northern portion of Clallam County along the Strait of Juan de Fuca is part of the Puget Sound watershed. Figure 1 illustrates the watershed's boundaries. The Puget Sound is one of 28 estuaries of national significance named as part of the United States Environmental Protection Agency's (EPA) National Estuary Program (NEP). Established in 1987 under the Clean Water Act, the NEP "protects and restores the ecological integrity of estuaries of national significance." Estuaries contain important habitats such as wetlands, mudflats, rocky shores, and seagrass beds and serve as nursery and spawning areas. Almost 80% of the commercial and recreational fish caught in the U.S. depends on estuaries for part or all of their lives (National Estuary Program, 2018).

Figure 1: Puget Sound Watershed Boundaries



In July 2005, the Washington State Board of Health adopted Chapter 246-272A WAC, which requires local health departments to develop plans for the management of on-site septic systems (OSS) within their jurisdictions. The goal of this requirement was to preserve public health and protect the environment (Washington State Legislature, 2005). In 2006, Clallam County convened a workgroup that ultimately published the Clallam County On-site Management Plan in 2007 (Sound Resolutions, 2007)

and the Clallam County Board of Health (BOH) adopted the plan June 19, 2007. The creation of this OSS Operations and Maintenance (O&M) program manual utilizes the framework and recommendations provided in the 2007 plan.

The 2007 plan states, “Before Clallam County [Clallam County Environmental Health (CCEH)] can implement the Work Group’s recommendations ... it must ensure that regulatory, programmatic, administrative, financial, and public-outreach systems are in place for effective implementation.” The plan recommended a 2-phase implementation approach with a financial system having been secured during Phase 1, which was necessary to fund the O&M program activities described therein. This financial system was not secured in the years following the plan’s adoption and the county has subsequently relied on geographically restrictive grant funding from the state to partially implement the 2007 plan. As such, this O&M program manual differs somewhat from the recommended 2-phase implementation strategy outlined in the original plan.

The plan also states, “Many details of these new programs remain unsolved. Therefore, an important activity in Phase 1 will be detailed scoping of each of these programs.” This document serves as the fully scoped program plan. It describes program objectives and outcomes, strategies for implementation of program activities, and a method of evaluation to determine program efficacy. This program will follow an adaptive management cycle once implemented.

It is the hope that the Clallam County Board of Health (BOH) will approve stable funding for this program. The revenue from the operating fee per system recommended by the Onsite Management Plan’s workgroup will support the work described herein. The plan states, “A fee or assessment should be collected via the property tax billing and collection process. All fees collected should be designated exclusively for implementation of the OSS plan; no funds shall be diverted to the county’s general fund.” (Sound Resolutions, 2007). The program activities described below provide services to OSS owners and protect public health for all County residents.

Introduction

A major source of pollution in Clallam County has been and remains failing OSS. In the early 2000's, 1,689 acres of commercial shellfish beds in Dungeness Bay were downgraded from "Approved" to "Prohibited" or "Conditional" due to fecal coliform surface water pollution. Extensive grant funded work done by multiple stakeholders drastically improved water quality from 2013-present, which allowed for upgrades in the Bay (https://www.clallam.net/hhs/EnvironmentalHealth/shellfish_downgrade.html). The breakdown of these status changes is in Table 1.

Table 1: Dungeness Bay Commercial Shellfish Status Changes 2000-2020

Month	Year	Growing Area	Acres Updgraded	Acres Downgraded	From	To
January	2000	Dungeness Bay	0	-300	Approved	Prohibited
May	2001	Dungeness Bay	0	-100	Approved	Prohibited
September	2003	Dungeness Bay	0	-227	Approved	Prohibited
September	2003	Dungeness Bay	92	0	Prohibited	Conditional
September	2003	Dungeness Bay	0	-1062	Approved	Conditional
April	2011	Dungeness Bay	424	0	Prohibited	Conditional
October	2015	Dungeness Bay	688	0	Conditional	Approved
October	2015	Dungeness Bay	40	0	Prohibited	conditional
October	2016	Dungeness Bay	272	0	Conditional	Approved
August	2020	Jamestown	23	0	Prohibited	Approved

Groundwater can also be polluted by untreated wastewater. Approximately 80% of households in Clallam County utilize groundwater as their drinking water source. Pathogens and nitrates can enter groundwater from improperly functioning OSS or OSS located too close a well. A 2007-2008 study conducted in the rural areas of the County analyzed groundwater for nitrates and bacteria. Excess nitrates can cause hypoxia (low levels of dissolved oxygen) and can become toxic to warm-blooded animals at higher concentrations (10 mg/L or higher) under certain conditions. Nitrate results indicated excellent groundwater quality overall, although 21% of wells tested contained nitrates at 1mg/L, a standard that indicates human-caused degradation from non-point sources, including OSS. The study stressed the importance of protecting the County's relatively uncontaminated groundwater and recommended "continuing inspections of ... on-site septic systems and educating residents on groundwater quality protection measures" as a means to protect groundwater from further degradation (Soule, 2008).

Program Overview

Failing septic systems can expose humans, pets, and wildlife to pathogens found in fecal bacteria. These pathogens can cause diseases such as gastroenteritis, ear infections, dysentery, or hepatitis A if ingested. Swimming, wading, eating shellfish from waters with high bacteria levels or exposure to raw sewage coming from a failing septic system in a home or yard can lead to exposure (DuBose, Poop Smart). Regular septic system maintenance is a proven way to get long-term cost savings and is required under Washington State Administrative Code (WAC) 246-272A-0270 and Clallam County Code (CCC) 41.20.170(1) (Washington State Legislature, 2007) (Clallam County Board of Health, 2008).

The primary goal of CCEH's O&M program is to prevent premature failures by normalizing regular inspections. Preventing premature failures will reduce health and economic disparities created by failing systems by reducing exposures and protecting investments. Local providers declared about 50% of inspections consistently prevent failures through the discovery of minor issues that are inexpensive to repair (Providers, 2021). A failing system requires substantial resources to repair, has the potential to impact human and environmental health, lowers property values, and can create legal issues.

Approximately 20,000 of Clallam County's 37,728 households have known OSS (Permit Plan, 2021) (United States Census Bureau, 2019). This is roughly 53% of households. Clallam's current septic inspection compliance rate countywide is 30% (Permit Plan, 2021). Regular system maintenance prolongs and extends the life of the system and has the potential to minimize health and economic disparities. Premature failures can be prevented by increasing awareness of inspection benefits, reducing barriers to compliance, and by enforcement of inspection compliance regulations when necessary.

CCEH's O&M Program activities will benefit OSS homeowners countywide and will have a meaningful impact in the greater community. Program activities will increase awareness about the benefits of maintenance; improve and preserve surface and ground water quality; provide training to homeowners, providers, and realtors; assist in offsetting inspection costs for low-income homeowners; and provide technical assistance. Program outcomes include preventing premature OSS failures; reducing health and economic disparities; increasing and improving homeowner capacity to conduct their own inspections; increasing Clallam County's compliance with state regulations; and protecting public health and the environment. Program activities also have the potential to support the County's local economy by supporting current OSS industry providers and providing opportunities for industry growth, protecting commercial and recreational shellfish beds, and sustaining tourism activities.

In the first 10 years, CCEH aims to increase inspection compliance from 30% to 90% countywide, ensure 75% of home sales are compliant with inspections at the time of sale, and reduce premature failures by 95%. The short-term, intermediate, and long-term goals are described in Table 2. Program outcomes will be achieved by conducting the program activities in Table 4. These activities are explained in further detail in the next section.

Table 2: Short-term, intermediate, and long-term objectives

Goal	Short-term objective (1-3 years)	Intermediate objective (4-5 years)	Long-term objective (6-10 years)
<p><i>Prevent premature failures and prolong the life of septic systems by normalizing regular inspections.</i></p>	<p>By the end of 2025:</p> <ul style="list-style-type: none"> • increase inspection compliance from 30% to 50% by: <ul style="list-style-type: none"> ○ providing homeowner outreach ○ implementing a robust rebate program for low-income homeowners ○ offering free do-it-yourself (DIY) inspection certification 	<p>By the end of 2027:</p> <ul style="list-style-type: none"> • increase inspection compliance from 50% to 75% by: <ul style="list-style-type: none"> ○ providing homeowner outreach and inspection rebates ○ building DIY inspection capacity • *Increase home sale compliance to 75% through realtor and homeowner outreach 	<p>By the end of 2032:</p> <ul style="list-style-type: none"> • Increase inspection compliance will increase to 90% by: <ul style="list-style-type: none"> ○ providing outreach and inspection rebates ○ building DIY inspection capacity • *Decrease premature failures from 50% to 5% of all failures

*CCEH will collect baseline data for percent of home sales compliant and percent of premature failures during year 1 activities.

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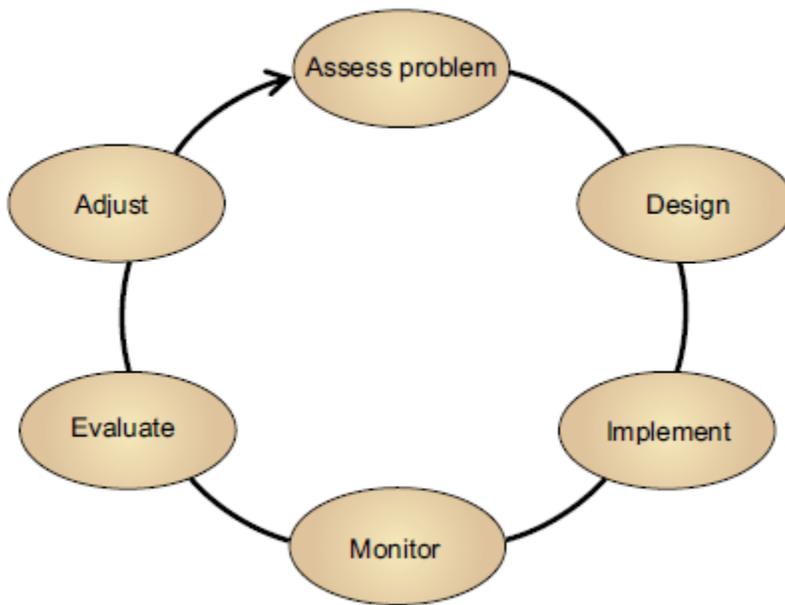
Table 3: Program Overview

Objective	Activities	Outcome	Timeframe (year)	Cost (\$)/year
Normalize inspection compliance required by Chapter 246-272A WAC and Clallam County Code 41.20.170	Prioritize and target non-compliant properties about regulations using septic inspection compliance letter writing workflow	Increase awareness of inspection requirement and benefits, and increase compliance rates, reduce preventable failures	Ongoing	77,980
	Implement outreach plan using multiple modalities (direct mail, radio and print advertising, public events, in-person training, social media)		Ongoing	
	Educate realtors and new homeowners about pre-sale inspection requirement and OSS maintenance requirements and benefits	75% of home sales will be compliant with inspections at point-of-sale	1-3	
	Provide technical assistance to OSS owners and industry*	Increase and ensure accuracy of inspections conducted by providers and DIY inspectors	3-10	
Reduce financial burden and barriers to compliance	Provide rebate program for low-income homeowners	Increase compliance rate and develop homeowner capacity to conduct maintenance	ongoing	50,150
	Conduct in-person training for DIY inspection certification	Increase capacity of homeowners to conduct their own inspections and reduce financial burden		
Maintain database	Maintain records	Provide accessible data to providers, homeowners, realtors, etc.	ongoing	55,750
	Quality Assurance(QA)/Quality Control(QC)	Assure accuracy and accessibility of database functions	ongoing	
	Assist IT with database changes	New database supports program needs	1-3	
Improve water quality	Monitor water quality and investigate potential OSS sources in sensitive areas	Increased recreational and commercial harvestable shellfish acreage	3-5	60,800
		Decreased exposure to public in recreational waters	ongoing	
	Conduct assessment sensitive areas defined in Clallam County's OSS Management Plan	Determine where water quality monitoring and investigation efforts should be	1-3	
Program Evaluation	Systematically collect information about the activities and outcomes	Improve program effectiveness and inform decisions about the future program activities	3, 5, and 10 years	\$7,000
	Make judgements about program efficacy			
Annual Cost:				\$251,680
10 year cost:				\$2,516,800

*Separate objective in tables below

This program will follow the adaptive management framework. This systematic approach will allow CCEH to improve resource management as it learns from successive evaluation outcomes. This framework guides CCEH in learning and adapting to support those affected by this initiative. As program efficacy becomes measurable, CCEH can explore alternate ways to meet program outcomes and better utilize program resources to improve program effectiveness (Williams & Brown, 2012). Figure 2 is a diagram of the adaptive management process.

Figure 2: Diagram of Adaptive Management Process (Williams & Brown, 2012)



Program Activities

Specific program activities support program objectives with the goal of achieving the outcomes described in Table 3 above. The first year of the program will involve further scoping and developing specific activities. Table 4 provides a concise look at each specific activity as it relates to the objective, the timeframe in which it should be completed, and the staff member responsible for managing the activity. Some program activities are described in more detail below for clarity.

Table 4: Specific Program Activities, Timeframe, and Staff

Objective	Program Activities	Specific Activities	Timeframe	Responsible Staff
Normalize inspection compliance required by Chapter 246-272A WAC and Clallam County Code 41.20.170	Prioritize and target non-compliant properties about regulations using septic inspection compliance (SIC) letter writing workflow (Appendix A)	Prioritize non-compliant properties by proximity to sensitive areas; rank order of sensitive areas by risk and impacts to public health	Ongoing	All
		Track SOM cases for inspection compliance in database		Database Specialist
		Follow SEPTIC INSPECTION COMPLIANCE Enforcement Workflow for letter writing timeline (J:\eh\ONSITE\INSPECTION COMPLIANCE\Enforcement workflows_timelines\OSS SEPTIC INSPECTION COMPLIANCE enforcement workflow Mar 2021.pdf)*		O&M Specialist
		Track voluntary compliance after starting timeline		O&M Specialist
	Implement program marketing plan using multiple modalities	Conduct market analyses and/or research other local program's marketing plans; make determination of effective strategies and adjust plan as needed*	1	O&M Specialist
		Send annual postcards to all OSS homeowners to promote OSS awareness and education*	1, as needed after analysis	O&M Specialist
		Research, write, and record content for KONP radio ads as needed; select package*	1, as needed after analysis	O&M and Admin Specialists
		Develop print advertising content for Sound Publishing publications 3-5* times/year	1, as needed after analysis	O&M Specialist

Objective	Program Activities	Specific Activities	Timeframe	Responsible Staff
	Conduct targeted outreach to inform public and industry about regulations and maintenance benefits. Educate realtors and new homeowners about pre-sale inspection requirement and OSS maintenance requirements and benefits	Re-develop comprehensive website*	1	O&M and Database Specialists
		Develop and disseminate realtor education packets*	1, ongoing	O&M and Admin Specialists
		Conduct semiannual trainings at realtor and meetings*	Annually	O&M and Admin Specialists
		Develop and disseminate new homeowner education packet*	1, ongoing	O&M and Admin Specialists
		Verify inspections at point-of-sale	ongoing	Database and Admin Specialists
Reduce financial burden and barriers to compliance	Provide rebate program for homeowners	Develop rebate protocol and mechanism to pay providers directly	1	O&M and Admin Specialists
		Target inspection compliance for 100% reimbursement at eligible low-income homeowners*	1-3	O&M and Admin Specialists
		Reimburse eligible low-income homeowners 100% and homeowners \$50	4-10	O&M and Admin Specialists
	Conduct in-person training for DIY inspection certification	Evaluate training program and apply adaptive management framework to increase homeowner utilization; develop recertification process and materials	1	O&M and Admin Specialists
		Hold classes in all areas of the County where interest is measured*	ongoing	O&M Specialist
		Develop recertification exam and inform DIY homeowners when it is time to recertify*		O&M Specialist
Maintain database	Data entry	Record inspection reports	ongoing	Database and Admin Specialists
		Upload O&M agreements		
		Record and track complaints		
		Query and provide records/data as requested		
	Quality Assurance(QA)/Quality Control(QC)	Resolve issues; ensure functionality and accuracy	ongoing	Database Specialist
Assist IT with database changes	Assist IT with incorporating program needs and functions into database	1-3		

Objective	Program Activities	Specific Activities	Timeframe	Responsible Staff
Improve and protect water quality	Monitor water quality and investigate potential OSS sources	Assess sensitive areas defined in Clallam County's OSS Management Plan for fecal coliform or E.coli	1-3	Water Quality Specialist and Streamkeepers
		Develop and implement groundwater nitrate study	3-4	
		Conduct dye-testing to confirm failing OSS	ongoing	
		Conduct quarterly water quality monitoring countywide at highest priority	4-10	
Provide technical assistance to OSS owners and industry	Audits	Train staff	1	O&M Specialist
		Create audit rubric and generate educational materials	1	O&M Specialist
		Develop criteria to identifying systems needing audits		
	Provider Outreach	Prioritize parcels and select DIY homeowners and providers to conduct audits with;	2-10	O&M Specialist
		Host semiannual training or meeting	Annually	O&M Specialist
Program Evaluation	Track performance indicators	Establish tracking system for selected performance indicators and collect baseline data for each	1	All
		Gather metrics for performance indicators using evaluation rubric's guidelines (below)	3,5,10	
		Report findings and recommendations of evaluation to relevant stakeholders*		
	Apply adaptive management framework as needed	Define activities not meeting expected performance measures		
		Adjust program activities to enhance program efficacy		

*Outreach activity

Outreach

CCEH will continue conducting outreach in ways it traditionally has until the marketing analysis described below is complete. Currently, CCEH advertises using print ads, radio ads, social media posts, and presents at local meetings and local events as opportunities arise. In-person classes are conducted for homeowner DIY certification classes, but participation has been low in recent years. Provider and realtor trainings have been limited but will become regular upon implementation of this program. In the past, CCEH used to conduct trainings to younger residents, or potential future OSS owners and stewards of the environment, and should resume these trainings if resources allow.

Content

CCEH will develop new content only when pre-existing content approved for use is not available or when County-specific information is required. CCEH's network drive currently contains a significant amount of content that can be revised for use.

Additional content for preapproved for use:

- [Poop Smart Campaign](#) (DuBose, Poop Smart, 2021)
- [EPA outreach toolkit](#) (United States Environmental Protection Agency, 2021)

Marketing Analysis

CCEH will utilize marketing analysis completed for similar programming to assist in the analysis of its marketing plan to understand its reach and effectiveness. Activities listed in this section in Table 4 are part of the current marketing strategy and may be modified or eliminated after the analysis. New strategies may be added.

Realtor Training

Realtor packets should be compiled and distributed in year one and on an ongoing basis as needed. Semi-annual meetings should be scheduled with realtors to aid in their training about OSS care and point-of-sale requirements. Continuing education units for realtors to attend these meetings will be explored.

Audits

Audits serve to ensure accuracy of inspections by both providers and DIY certified homeowners. The audit program should be developed first using other counties programs. Development of this program will begin in year 1 and will be implemented in year 2. The O&M Specialist should receive proper training prior to implementation.

Water Quality Monitoring

The OSS Management Plan recommends conducting water quality monitoring to collect essential surface and ground water quality data in areas where OSS are utilized for wastewater treatment. This

will aid in identifying failures early while they have minimal impacts. Analysis will include fecal coliform, *Escherichia coli* (*E.coli*), or nitrates.

During years 1-3 of this program, all sensitive areas defined in the OSS Management Plan, or areas where OSS may pose an increased threat to public health, will be assessed for water quality per the plan's recommendations. These areas will be prioritized in order of prevailing risk to human and/or environmental health and include:

- Lake Sutherland (and its drainages)
- Lake Pleasant
- Lake Crescent (located in Olympic National Park, no jurisdiction)
- Lake Ozette (located in Olympic National Park, no jurisdiction)
- Lake Dawn
- The Carlsborg area
- Critical aquifer recharge areas (CARAs)
- Frequently flooded areas
- Commercial and recreational shellfish growing areas (already occurring in Clean Water District)
- The Sequim Bay-Dungeness Watershed Clean Water District (already occurring)

At the time of writing, water quality monitoring is already occurring in the Sequim Dungeness Watershed Clean Water District and its shellfish growing areas. This work is grant funded at least through 2022 and ideally through 2025. By 2025, Clallam can expect to be less competitive for grant funding in this area. During the program's 4th year, the Baseline Trends Monitoring program and investigations in this area related to OSS should be absorbed into this program. Prior to absorbing the Baseline Trends program, CCEH and Streamkeepers (SK) should analyze Tier 1 stream data and consider upgrading some streams to a Tier 2 status. See the Pollution Identification & Correction plan for the Sequim Bay-Dungeness Watershed Clean Water District (PIC Plan) (Clallam Conservation District, 2014).

The OSS Management Plan allows for identification of new sensitive areas by providing data that OSS is posing increased risk to public health (Sound Resolutions, 2007).

E.coli versus Fecal Coliform Analysis

Chapter 173-201A -200(2) WAC requires *E. coli* analyses in recreational waters. Non-recreational surface waters, such as the waterbodies of the Lower Dungeness, will be analyzed for fecal coliform because this criteria is used to protect shellfish harvesting, as described in Chapter 173-201A-210(2) WAC, and is less expensive than *E. coli* analysis (Washington State Legislature, 2019).

Nitrates

The OSS Management Plan also discusses a nitrate study to determine nitrogen reduction effectiveness. Drinking water with high levels of nitrates can be dangerous to human health, especially for infants and pregnant women. It may be successfully removed using treatment processes such as ion exchange, distillation, and reverse osmosis (United States Environmental Protection Agency, 2015). Many Clallam

County residents utilizing wells for drinking water but are not on a public system do not have access to this type of treatment and are not required to test.

The OSS Management Plan states: “Repeat sampling of area wells suggests that nitrate concentrations have increased in the region’s ground water since 1980 ... Current land use activities may lead to increased groundwater nitrate concentrations: land use changes in the east end of the county from rural farms and pasture to suburban residences with septic systems may yield higher nitrate contributions” (Sound Resolutions, 2007). CCEH will design and conduct a study to monitor groundwater nitrates in years 3-4.

Streamkeepers Program

SK is a citizen-based watershed-monitoring program of Clallam County's Department of Community Development. It provides volunteer opportunities and project assistance in the effort to protect and restore our local watersheds. CCEH and SK have traditionally collaborated on the PIC Project and will continue to collaborate in a similar and meaningful way. This program provides \$5,000 annually to the SK program to support the collaboration between CCEH and SK and for the use of equipment and volunteers. SK will also manage the data for public consumption and provide high-level data analyses as needed for data sharing. The SK volunteers and Coordinator will assist as needed with water quality monitoring countywide.

Rebate Program

The annual budget for the rebate program is \$15,000. Surplus O&M program revenue will be absorbed into this element of the program. All applicants must obtain certification as a do-it-yourself (DIY) inspector to qualify for a rebate, except for those with proprietary systems ineligible for the DIY inspector program. Requiring homeowners to complete the DIY certification to receive these funds will help build homeowner capacity, especially for those whose inspections pose a significant financial burden. Funds will be dispersed on a first-come, first-serve basis. In year 1, CCEH will need to adapt the protocol to reflect changes implemented with this fee-funded program.

During years 1-3, rebates will be prioritized for low-income homeowners with a 100% payout for the cost of the inspection or locate. CCEH needs to develop a mechanism to pay the providers directly in year 1. At the time of writing, the rebate protocol requires the homeowner to pay up front and submit an application for reimbursement. A direct payment to the provider will expand the reach of the rebate program by making it accessible to all low-income homeowners seeking to utilize it.

Beginning in year 4, all OSS homeowners are eligible to apply for a rebate as funds become available for this “repayment program.” Homeowners not declaring financial hardship are eligible to receive one \$50 rebate in the 10 year period, unless their system is ineligible for DIY inspections. This will decrease the total annual fee assessed over 10 years to each OSS owner by 38%.

Table 5 outlines spending for the program and how the number of DIY inspectors certified over the course of 10 years. This rebate program leading to DIY inspector certification has the potential to account for almost 10% of inspections countywide.

Table 5: Rebate Program Spending and DIY certifications

	Years 1-3	Years 4-5	Years 6-10	TOTAL over 10 year	Total inspections*
Financial Hardship	\$15,000	\$7,500	\$2,500	\$72,500	414
Homeowner repayment	N/A	\$7,500	\$12,500	\$77,500	1550
Total	\$45,000	\$30,000	\$75,000	\$150,000	1964
<i># of DIY inspectors</i>	257	386	1586	1964	

* Price of inspection averaged with 30 invoices from 2019-2021 rebate round = \$175

Program Budget

The program-spending plan includes all activities, required technology, and personnel time to perform activities. Table 6 provides an overview of the spending plan, and Table 7 highlights how each objective's activities will utilize the funds. Surplus revenue will be absorbed into the rebate program after annual pay rate increases and program adjustments have been applied.

Table 6: Annual Program Budget

O&M Program Proposed Annual Budget					
Theme	Item	Line	Cost	Qty.	Total
Outreach/Ed.	Room Rental (classes)	56254.45.0010	\$100	10	\$1,000
	Event Booth	56254.45.0010	\$500	2	\$1,000
	Radio Ads (monthly)	56254.41.4410	\$425	12	\$5,100
	Newspaper Ads (monthly)	56254.41.4410	\$3,000	1	\$3,000
	Direct Mailing	56254.41.0020	\$4,000	1	\$4,000
	Postage	56254.42.0020	\$6,000	1	\$6,000
	Poster/Banner/Printing	56254.49.0030	\$500	1	\$500
	Banner Space	56254.41.0020	\$330	1	\$330
	Incentives	56254.45.0010	\$150	100	\$15,000
	Supplies/Materials	56254.31.0020	\$500	1	\$500
Training	Travel (meetings and training)	56254.43.0020	\$1,500	4	\$6,000
Inter-Departmental	Streamkeepers	56260.41.5140	\$5,000	1	\$5,000
	IT assistance	56254.41.0020	\$5,000	1	\$5,000
Other	Water Lab	56252	30-35	400	\$12,500
	Dye Testing	56254.41.0020	\$1,000	1	\$1,000
	Abatement		\$2,000	1	\$2,000
Staffing	GIS Tech. (0.5 FTE)	56254.10.0010	\$30,000	1	\$30,000
	Admin. Specialist (0.5 FTE)	56254.10.0010	\$30,000	1	\$30,000
	O&M EH Specialist (1 FTE)	56254.10.0010	\$50,000	1	\$50,000
	WQ EH Specialist (0.40 FTE)	56254.10.0010	\$20,000	1	\$20,000
Benefits	Benefits @ 40%	56254.20.0020	\$52,000	1	\$52,000
Total Annual O&M Expenses					\$249,930
Projected annual revenue:					\$260,000
Annual Variance:					\$10,070
10-year expenses:					\$2,499,300
Projected 10-year revenue:					\$2,600,000
10-year variance:					\$100,700

Table 7: Budget Breakdown by Objective

	Normalize and increase inspection compliance: Target non-compliant properties about regulations; implement outreach plan; Target realtors about pre-sale inspection requirement and provide new homeowner education packets; provide technical assistance and training (providers separate objective in other program tables	Database Management: QA/QC; Maintain records; Query and provide data/records as requested; Assist IT with database changes	Improve water quality: Assess sensitive areas, monitor water quality; data entry and reporting; OSS investigations	Reduce financial burden and barriers to compliance: promote rebate program, process rebate applications, promote and provide DIY certification training	Program Evaluation: Systematically collect data for performance measurements; Make judgements about program efficacy	Totals
Personnel:						130,000
EHS: O&M	23750		12500	12500	1250	50,000
EHS: WQ			18750		1250	20,000
Admin	\$8,750	\$10,000		\$10,000	\$1,250	30,000
Tech		\$28,500			\$1,500	30,000
Fringe Benefits	\$13,000	\$15,400	\$12,500	\$9,000	\$2,100	52,000
Training:						6,000
Travel	\$4,000					0
Registration	\$2,000					0
Equipment						0
Supplies	\$50		\$300	\$150		500
Contractual						18,100
Newspaper ads	\$3,000					
Radio ads	\$5,100					
Mailing service	\$4,000					
Postage	\$6,000					
Other						43,330
Event Booths	\$1,000					
Banners	\$830					
Rebates				\$15,000		
Room rental	\$1,000					
CCEH Lab			\$12,500			
IT		\$5,000				
Streamkeepers			\$5,000			
Dye Testing			\$1,000			
Abatement	\$2,000					
Total	\$74,480	\$58,900	\$62,550	\$46,650	\$7,350	249,930

Evaluation of Performance Measures

In year 1, CCEH will devise a tracking system for all performance measures and collect baseline data in which the program's effectiveness will be measured against. CCEH will conduct evaluations at years 3, 5, and 10 to determine program efficacy and will utilize the adaptive management framework to modify program activities to support program outcomes.

Program success will be measured by tracking changes for the following objectives as they relate to the program outcomes. This data will be compared to baseline data compiled in year 1. At the time of writing, an evaluation rubric has been drafted but not completed. This rubric can be found in CCEH's drive at <K:\Interdepartmental\HHS Env. Health\EH Grants-Active\OSS - NEP OSS NTA 0152 2019-2021\Task3EnhanceProgramInMRA-OSS\3.7 SustainableFunding\Stable funding Program Development\OSS O&M Program Evaluation Rubric.docx> and in Appendix B.

Objective	Quantitative Data	Qualitative Data
Normalize inspection compliance	Difference in: inspection compliance rate; number of unknown systems; failures found and repaired; failures prevented; website hits, social media responses, etc.	Records and analysis of public and provider response; homeowner experience
Reduce financial burden and barriers to compliance	Number of applications received, number of rebates issued, number of low-income homeowner inspections completed; difference in certified DIY homeowners; improved DIY retention rate; number of DIY reports submitted; audit reports; number of Craft3 and USDA loans provided; number of cost-share funded repairs	Homeowner and provider experiences; public response; audits narrative
Maintain Database	Residents and providers using database; accuracy of reports; number of imported records; provider and public survey for ease of use	Database transfer success; public and provider response for ease of use
Water quality improvement/impairment prevention	Water quality data; number of septics of concern identified and addressed; decrease in pollution related closures of commercial and recreational waters; decrease in complaints	Public response
Program Evaluation	Evaluation scorecards	Homeowner experience

Homeowner Assistance for Failing Systems

Once a system has failed, it moves from the O&M section of the O&M Program to the Permitting Section of CCEH's General Onsite Septic Program. The permitting section provides technical assistance to homeowners to aid in minimizing exposure to pathogens as the system awaits repair. County Code requires systems be repaired within 30 days, however, those seeking assistance for the cost of the repair may take 2-3 months.

There are a variety of assistance programs homeowners can utilize to repair a failing system. These programs are described below.

Craft3: Water Quality Loan Program

The following information was gleaned from a phone conversation with Jena Ross phone call on 6/7/21.

Craft3 is a regional organization that provides low-interest loans to qualifying homeowners for OSS repairs. Loans have a 15-year repayment period. Some low-income households may qualify for deferred payment loans, but most will be making some kind of payment. Craft3 has the discretion to extend the loan period for an additional 5 years. Many homeowners sell the property before the 20-year mark.

CCEH receives pipeline reports each month from Craft3's Clean Water Program Manager. These provide application details for denied applications, approved and withdrawn applications, and loans that are in progress or closed/partially funded. From July 2016 through November 2020, Craft3 received 89 applications for Clallam County OSS repairs projects. Of these applications, 48 closed, 23 were approved but withdrawn, and 18 were declined.

Craft3 calculates the amount of clean water treated for all closed loans based on the number of rooms per home per year. From 2016-2020, Craft3 loans supported the treatment of 5,472,000 gallons of wastewater.

Upon closing the loan, Craft3 adds \$2,000 "O&M Fund" the homeowner can utilize for future inspections and maintenance. The fund typically lasts 5-7 years. Homeowners are not required to use this money, and they do not pay interest or repay it if left unused.

Craft3 must adhere to consumer lending laws. Underwriting declines applications for multiple reasons:

- Income to debt ratio too high
 - Banks use ~50% of income, but Craft3 uses 60% (sometimes higher)
- Delinquent property taxes
 - Must be current
- Title issues
 - Owner must be loan applicant
- Delinquent on mortgage
 - Must be current
- Federal tax liens

- Automatic decline
- Credit score
 - 590 is lower limit accepted without special approval
- Bankruptcy
 - Must be discharged 13 or more months prior to application
- Ineligible project measures
 - Dwelling must be on land; RV or new construction ineligible

Clallam Conservation District: OSS Cost-Share Program

The Clallam Conservation District OSS Cost-Share Program defrays homeowner costs for repairing or replacing failing OSS that are affecting water quality. The program is implemented in partnership with CCEH. CCEH refers homeowners in need of financial assistance to repair or replace failing OSS to the Conservation District. Cost-share assistance is contingent upon available grant funding.

Any homeowner living in a current PIC focus area that has resided in their home for at least 12 months is eligible for financial assistance. Homeowners outside a current PIC focus area but within the Clallam County Marine Recovery Area (MRA) are eligible if denied a loan for repair of their septic system. Applicants must have an expressed financial need. If the homeowner qualifies for funding through the Conservation District, they can apply for a Craft3 loan to cover the 25% in installation costs they are required to pay through the cost-share program.

Financial assistance through the OSS Cost-Share Program covers a percentage up to 75% of the cost of repairing or replacing a failing system. The program also covers the cost of County permits and system design, including soils evaluation. All eligible costs are paid on a reimbursable basis (Clallam Conservation District, 2021).

USDA Loans

USDA Water & Waste Disposal Loan & Grant Program provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas. The program assists qualified applicants who are not otherwise able to obtain commercial credit on reasonable terms. The loans are long-term, low-interest loans and a grant may be combined with a loan if necessary to keep user costs reasonable if funding is available (United States Department of Agriculture, 2019). To date, few Clallam County homeowners needing OSS repairs have acquired USDA loans.

Other

CCEH, along with local partners, will explore additional funding routes in year 1 for those needing assistance with their repairs. Specifically, it is critical to find assistance for homeowners outside the Lower Dungeness Watershed that do not currently have funding options outside of Craft3 and USDA loans.

Program Limitations

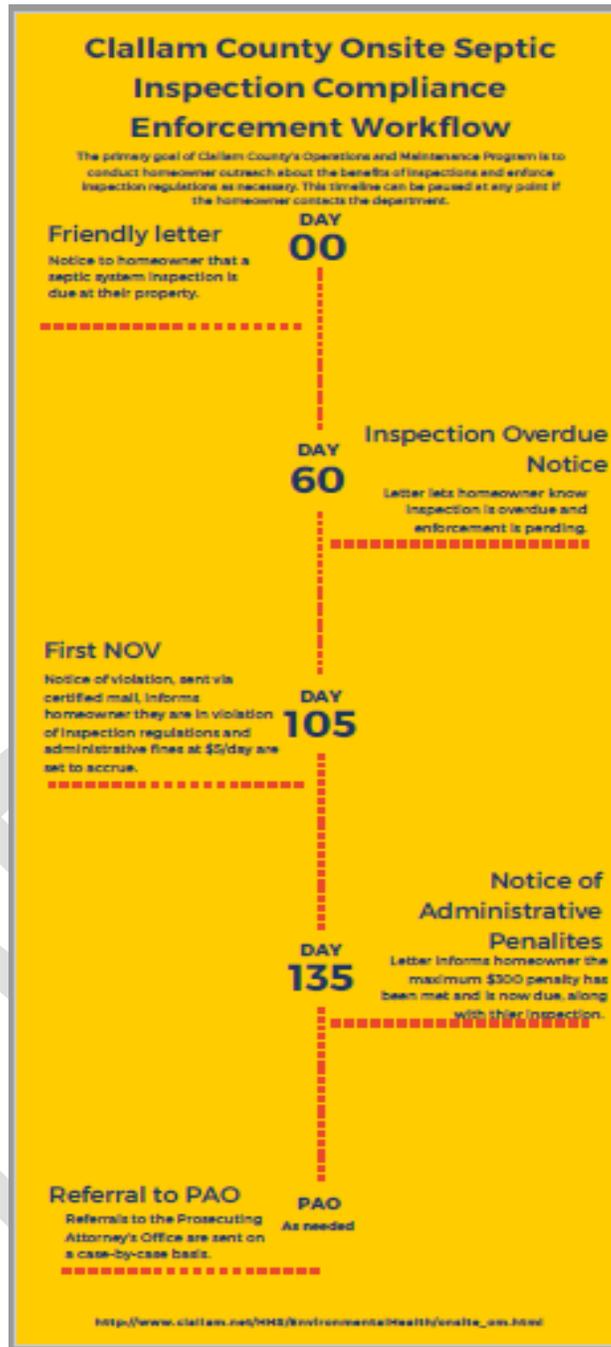
Limitation	Mechanism for Overcoming Limitation
O&M providers currently licensed may not be adequate to conduct inspections	Discuss how to promote and train future industry providers with providers
Reach to low-income homeowners	Conduct marketing analysis
	Reasonable enforcement and reduce fines/fees to reasonable amounts with voluntary compliance
	Encourage industry to reach out to homeowners regarding septic inspection compliance
Achieving 100% of compliance at point-of-sale	Provide outreach to homeowners through website and Chamber of Commerce about the requirements/benefits of being compliance
	Provide new homeowner packet on Chamber of Commerce website (available pre-sale)
	Provide outreach to local realtors education
Increasing buy-in from residents with “septics are free” mindset	They may: <ul style="list-style-type: none"> • Getting inspection and realizing it prevented a failure • Experience a failure • Experience enforcement
Accuracy of DIY and Provider inspections	Address accuracy and provide technical assistance through audits
Funding all failures is not possible	Fully implement program now while Clallam Conservation District has grant for funding failures through cost share program in MRA
	Explore other funding for assistance outside of MRA
	Explore long-term, stable funding source for repair assistance

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Appendix A: Inspection Compliance Workflow



(File path to document in CCEH files: J:\eh\ONSITE\INSPECTION COMPLIANCE\Enforcement workflows_timelines\OSS SIC enforcement workflow Mar 2021.pdf)

Appendix B: DRAFT Evaluation Rubric

**Clallam County Environmental Health
Onsite Sewage Operations and Maintenance Program
Project Evaluation Rubric**

Period of evaluation:

Completed by:

Project Activities/Strategies	Expected Outcomes	Data Collection Plan
Prioritize and target non-compliant properties about regulations using septic inspection compliance letter writing workflow	Increase awareness of inspection requirement and benefits, and increase compliance rates, reduce preventable failures	Track inspection reports in database
Implement outreach plan using multiple modalities (direct mail, radio and print advertising, public events, in-person training, social media)		Gauge understanding through public outreach at events, EH desk, etc. and meet with providers semi-annually
Educate realtors and new homeowners about pre-sale inspection requirement and OSS maintenance requirements and benefits	75% of home sales will be compliant with inspections at point-of-sale	Track number of homes compliant at point of sale
Provide technical assistance to OSS owners and industry	Increase and ensure accuracy of inspections conducted by providers and DIY inspectors	Track inspection audit scores and narratives
Provide rebate program for low-income homeowners	Increase compliance rate and develop homeowner capacity to conduct maintenance	Track number of low-income homeowners using program; Track change in inspection compliance; track DIY reports; inspection audit scores and narratives
Conduct in-person training for DIY inspection certification*	Increase capacity of homeowners to conduct their own inspections and reduce financial burden	
Maintain records	Provide accessible data to providers, homeowners, realtors, etc.	
Quality Assurance(QA)/Quality Control(QC)	Assure accuracy and accessibility of database functions	
Assist IT with database changes	New database supports program needs	
Monitor water quality and investigate potential OSS sources in sensitive areas	Increased recreational and commercial harvestable shellfish acreage Decreased exposure to public in recreational waters	
Conduct assessment sensitive areas defined in Clallam County's OSS Management Plan	Determine where water quality monitoring and investigation efforts should be	
Systematically collect information about the activities and outcomes	Improve program effectiveness and inform decisions about the future program activities	
Make judgements about program efficacy		

Project Outcomes	Data collected from data plan	Program Results (<i>specific results for the stated outcome</i>)
Increase awareness of inspection requirement and benefits, and increase compliance rates, reduce preventable failures	Quantitative data: septic inspection compliance rate, failure prevention tracked on inspection report; number of unknown systems ruled out or identified, number of unknown systems remaining	
	Qualitative data: Public response; provider narratives	
75% of home sales will be compliant with inspections at point-of-sale	Quantitative data: Number of homes compliant at point of sale	
Increase and ensure accuracy of inspections conducted by providers and DIY inspectors	Quantitative data: Change in DIY certified homeowner; increase in recertified homeowners; # of DIY reports submitted; inspection audits scores	
	Qualitative data: Inspection audits narrative	
Increase compliance rate and develop homeowner capacity to conduct maintenance;	Quantitative data: septic inspection compliance rate, failure prevention tracked on inspection report; Change in DIY certified homeowner; increase in recertified homeowners; inspection audit scores	
Increase capacity of homeowners to conduct their own inspections and reduce financial burden	Quantitative data: Change in DIY certified homeowner; increase in recertified homeowners; # of DIY reports submitted; inspection audits scores	
	Qualitative data: Inspection audits narrative	
Provide accessible data to providers, homeowners, realtors, and public; Assure accuracy and accessibility of	Quantitative: number of improved database functions; Number of homes compliant at point of sale, number of reports electronically uploaded	